

ROGOVIN, Z.A.; TREYVAS, M.G.; YASHUNSKAYA, A.G.

The reactivity of various functional groups in the cellulose macro-molecule. Trudy Konf. Vysokomolekul. Soedineniyam 4-oy Konf., Moscow '48, 36-55.

(CA 47 no.14:7207 '53)

1. Moscow Textile Inst.

YASHUNSKAYA, A. G.

PA 67/49T65

USSR/Chemistry - Cellulose Compounds      Aug 49  
Esters

"Preparation of Dialdehyde-Cellulose Compounds and Their Esters," A. G. Yashunskaya, N. N. Shorygina, Z. A. Rogovin, 9 pp

"Zhur Prikl Khim" Vol XXII, No 8

Performed the oxidation of dialdehyde-cellulose with varying percentages of aldehyde and secondary hydroxyl groups in the macromolecule, and examined the products. The derived nitric acid esters evidenced a greatly reduced solubility in acetone whenever aldehyde groups were present. In the acetic acid esters, irrespective of the amount of aldehyde

67/49T65

USSR/Chemistry - Cellulose Compounds      Aug 49  
(Contd)

groups contained, the quantity of acetic acid bore relation to the number of acetyl groups in triacetylcellulose. Further investigation of the phenomena exhibited by the esters of these two acids was advised. Investigated the complex acetals of dialdehyde-cellulose and methyl alcohol and the "internal" acetals of dialdehyde-cellulose (acetal bonds between the macromolecules). Submitted 18 Sep 48.

67/49T65

YASHUNSKAYA, A. G.

USSR/Chemistry - Cellulose  
Esters, of Cellulose

Aug 49

"Effect of the Nature of Functional Groups in the Macromolecule of Cellulose on the Properties of the Cellulose and the Esters Derived From Them," Z. A. Pogovin, N. N. Shorygina, A. G. Yashunskaya, M. G. Treyvas, Chair of Synthetic Fiber, Moscow Textile Inst, 7 $\frac{1}{2}$  pp

"Zhur Prik Khim" Vol XXII, No 8

Investigated modified compounds of cellulose, subjected to selective oxidation of the isolated hydroxyl groups into aldehyde and carboxyl groups, to show that the presence of a small quantity of either of these two groups in a macromolecule of cellulose sharply affects the solubilities of the derived nitric and acetic acid esters. Suggests chemical isomerism of the molecule of modified cellulose as one of the main factors in determining the solubility of esters and their other properties. Esterification of polyuronic acid not only affects its properties but also the configuration of the secondary hydroxyl groups in the polysaccharide molecule. Submitted 18 Sep 48.

PA 67/49T66



CA

23

Preparation of chemically dyed fiber. Z. A. Rogovin, A. G. Yashinskaya, and B. M. Bogdanovskii. *Chem. Prepr.* 1, 242-7 (1951); *J. Applied Chem. U.S.S.R.* 23, 695-71 (1950) (Engl. translation).—A chem. dyed fiber can be prepd. by condensation of aldehyde-cellulose of low oxidation degree with aromatic amines, followed by coupling with diazo compds. Jan Micks

USSR/Chemical Technology. Chemical Products and Their Application -- Wood chemistry products. Cellulose and its manufacture. Paper, I-23

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 6250

Author: Konkin, A. A., Yashunskaya, A. G., Bychkova, Ye. M.

Institution: All-Union Scientific Research Institute of Synthetic Fibers

Title: Effect of Concentration of Polysaccharides in Solution on the Rate of Their Hydrolysis

Original

Publication: Nauch.-issled. tr. Vses. n.-i. in-ta iskusstv. volokna, 1955, No 2, 8-11

Abstract: Determined were the rate of hydrolysis constants of methyl-cellulose (I), amylose (II) and lactose (III), on hydrolysis with a  $H_2SO_4$  solution, at different concentrations of these substances in solution. Changes in concentration of I, II and III, in solution, have a relatively slight effect on the hydrolysis rate of the above-stated substances. On an increase of the concentration by 30 times the hydrolysis rate of I is decreased by 2.1 times, that of II by 1.6 times and that of III by 1.7 times.

Card 1/1

USSR/Chemical Technology. Chemical Products and Their Application -- Synthetic  
fibers, I-24

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 6329

Author: Yashunskaya, A. G., Shulyatnikova, N. V.

Institution: All-Union Scientific Research Institute of Synthetic Fibers

Title: Acid Treatment of Viscose Cellulose

Original

Publication: Nauch.-issled. tr. Vses. n.-i. in-t iskusstv. volokna, 1955, No 2,  
20-25

Abstract: Treatment of viscose cellulose with dilute solution of HCl, while heating, results in an improvement of cellulose reactivity, as concerns viscose formation, but is associated with a lowering of alpha-cellulose content. On treatment with HCl solution (1.8 g/liter, 70°), after 2-3 hours the reactivity is increased from 130/11 to 90/11-70/11, and after 5-6 hours to 70/11-50/11. At the same time viscosity of the cellulose is decreased by 36-63 mpoise, the degree of polymerization (DP) by 200-300, alpha-cellulose content by

Card 1/2

USSR/Chemical Technology. Chemical Products and Their Application -- Synthetic fibers, I-24

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 6329

Abstract: 2.0-2.9%. Samples of cellulose subjected to acid treatment after cooking or chlorination, or bleaching, are more reactive than control samples. Comparative data on cellulose degradation in acid and in alkaline media, reveal that in both instances a decrease in DP, from 803 to 492-579, occurs, but a substantial improvement in reactivity (from 110/11 to 50/11) is observed only after the acid treatment.

Card 2/2



YASHUNSKAYA, A. G.

Math. 2 Structure and properties of cellulose and its esters. Effect of the treatment conditions of cellulose on the change in its reactivity in the process of viscose formation. Z. A. Rogovin, N. V. Shulyatikova, V. P. Kiseleva, and A. G. Yashunskaya. *Colloid J. (U.S.S.R.)* 17, 437-40(1955) (Engl. translation).—See *C.A.* 50, 4496d. B. M. R.

Yashunskaya, A. G.

5

✓ Structure and properties of cellulose and its esters.  
LVI. Effect of the treatment conditions of cellulose on the  
change in its reactivity in the process of viscose formation.  
Z. A. Rogovin, N. V. Shulyatikova, V. P. Kiseleva, and  
A. G. Yashunskaya. *Kolloid. Zhur.* 17, 462-6 (1955).

~~The reactivity was judged from the amt. (in g.) of CS<sub>2</sub> (=~~  
the no. before slant) and the amt. of NaOH (= the no.  
after slant) required to make viscose of a standard vis-  
cosity from 100 g. cellulose. Cotton (I) had 140/14, i.e.  
was less reactive than sulfite cellulose (II) with 110/11.  
Mercerization by 18% NaOH lowered the reactivity of I  
and had no effect on the reactivity of II. Warming (e.g.,  
to 70-80°) with dil. HCl or H<sub>2</sub>SO<sub>4</sub> raised the reactivity of  
I to 50/13 and of II to 50/11. Boiling distd. H<sub>2</sub>O improved  
the reactivity of I to 130/13.

J. J. Bikerman

III

③

AK

Structure and properties of cellulose and its esters. XLV.  
Conditions for the production of carboxyethylcellulose. A

G. Yashinskaya, Z. A. Rogovin, and A. A. Berlin. Zhuravskaya, 29, 105 (1974). Vol. 40, 1537.

50, 1496. Cellulose was treated with NaOH and urea. The rate of cyanoethylation was slow with NaOH less than 2%; it increased appreciably with 8% NaOH. Further increase of NaOH concn. did not affect the rate. Increasing the temp. of cyanoethylation to 45° decreased it. I from alkali sulfite cellulose (degree of polymerization 300-400) with 6.7% COOH content was sol. in 7-10% NaOH; I with 3.4% COOH content from viscose rayon was sol. in 1.8% NaOH. Solus. contg. 6.7% I in 6.8% NaOH were stable at room temp. after 2-3 months in glass stoppered bottles.

*YASHUNSKAYA, A.G.*

USSR/Chemical Technology. Chemical Products and Their Application -- Wood chemistry products, Cellulose and its manufacture. Paper, I-23

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 6277

Author: Yashunskaya, A. G., Rogovin, Z. A., Berlin, A. A.

Institution: None

Title: Investigation of the Conditions of Preparation of Carboxyethyl Cellulose

Original

Publication: Zh. prikl. khimii, 1956, 29, No 1, 105-110

Abstract: Into a mixture of a solution of alkali and acrylonitrile (I) was added cellulose (C). After stirring for 40-45 minutes at 30-35° the reaction mixture was cooled to -5° and held at this temperature for 1-1.5 hour after which it was heated to 25°. After stirring for 4-6 hours, reckoning from the start of the treatment, a solution of carboxyethyl cellulose (CEC) was obtained. With a concentration of the NaOH solution of less than 2% the reaction of cyanoethylation proceeds very slowly. An increase in the concentration of NaOH

Card 1/2

USSR/Chemical Technology. Chemical Products and Their Application -- Wood chemistry products. Cellulose and its manufacture. Paper, I-23

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 6277

Abstract: above 8% does not increase substantially the degree of esterification (DE). Factors which accelerate the hydrolysis [increase in temperature (45°), increase of the amount of alkali in the reaction mixture], lower the DE of C. On increase of the amount of NaOH solution from 10 to 50 ml, per 1 g C, the content of COOH groups in CEC decreases from 7.0 to 2.87%. Use of alkali C, produced by mercerization followed by pressing, comminution and pre-ripening, has made it possible to prepare CEC by direct action of I on alkali C, and to increase thereby considerably the utilization of I, in the primary reaction of esterification, from 10-22% to 46-63%. Maximum DE -- total  $\gamma = 95.1$  (0.19% COOH groups, 6.22% nitrogen), was attained in 3 hours with expenditure of 1.5 mole I per unit C linkage. CEC prepared from sulfite wood C (degree of polymerization 300-400), dissolves in 7-10% solution of NaOH, with a 6-7% content of COOH groups ( $\gamma = 26-30$ ). CEC prepared from reprecipitated C (viscose rayon), dissolves in 4-8% solution of NaOH with a 3-4% content of COOH groups ( $\gamma = 12-15\%$ ).

Card 2/2

15.5530, 15.9530

77272

SOV/63-4-6-6/37

AUTHOR: Yashunskaya, A. G., (Candidate of Technical Sciences)

TITLE: Cellulose for the Manufacture of Viscose Cord

PERIODICAL: Khimicheskaya nauka i promyshlennost', 1959, Vol 4, Nr 6, pp 726-730 (USSR)

ABSTRACT: Standards and characteristics required of cellulose used in the manufacture of high-strength cord are discussed in the article. Modern viscose cord fibers have a breaking length of 50 km at 10% elongation; the tensile strength in wet state decreases only by 20 to 25% (Khim. volokna, 1959, Nr 1, p 15). Molecular heterogeneity, particularly the content in fractions with DP < 150-200, is detrimental to the physical and mechanical properties (ibid., 1959, Nr 2). Molecular homogeneity influences positively the properties of the fibers, and also affects their structure; the viscosity of cellulose solutions with identical average DP decreases with the increasing uniformity of the molecular weights (Bum. prom., 1958, Nr 9, p 4).

Card 1/4

## Cellulose for the Manufacture of Viscose Cord

77272

SOV/63-4-6-6/37

It was shown that low-molecular cellulose xanthate fractions have a higher degree of esterification; it follows, therefore, that the molecular heterogeneity produces also a chemical heterogeneity (A. A. Konkin, Yu. A. Rymashevskaya, N. V. Shulyatikova, in print). The heterogeneity of the molecular weight, and also the presence of cellulose fractions with DP exceeding considerably the mean value, lowered the filtrability of viscose solutions (Bum. prom., 1959, Nr 10, p 5). Studies of the aging of alkali celluloses (A. G. Yashunskaya, in print) showed a varying accumulation of  $\beta$ -cellulose. The tensile strength and the elongation of the fibers were inversely proportional to the content of  $\beta$ -cellulose. According to recent studies, the quality of cellulose cord is determined by the carboxyl groups content which can be considered as the characteristic of purity, i.e., of the content of glucose poly-anhydride (Bum. prom., 1958, Nr 9, p 4). This carboxyl as well as carbonyl groups are formed in the oxidation and hydrolytic reactions, particularly during bleaching

Card 2/4

Cellulose for the Manufacture of Viscose Cord

11272

SOV/63-4-6-6/37

(Izv. AN SSSR, 1952, Nr 7, p 751; *ibid.*, 1953, Nr 2, p 374) and aging. The effect of various metal cations on the oxidation and viscosity of cellulose solutions is discussed. It was established that the decrease in the ash content increased the transparency of viscose solutions (Bum. prom., 1958, Nr 8, p 2). The ash content in cord cellulose does not usually exceed 0.05 to 0.06%. Cotton cellulose possesses all the characteristics required of a raw material for the manufacture of high-strength cord, namely 98 to 99%  $\alpha$ -cellulose content, high purity, a very small degree of polydispersity. (Khim. volokna, 1959, Nr 1, p 22). and an insignificant accumulation of low-molecular fractions during the aging. Cord fibers made of cotton cellulose have a high tensile strength, but cotton cellulose sometimes presents difficulties in the filtration and formation of viscose solutions (Khim. volokna, 1959, Nr 1, p 27). The application of mixed cotton and ligneous cellulose in non-Soviet cord plants is discussed, and the characteristics of some foreign celluloses are given. There

Card 3/4



Cellulose for the Manufacture of Viscose Cord

77272

SOV/63-4-6-6/37

are 3 tables; 7 figures; and 43 references, 13 U.S., 2 Canadian, 3 Finnish, 3 Swedish, 2 Japanese, 1 Czechoslovakian, 8 German, and 11 Soviet. Recent U.S. and Canadian references are: F. Walker, Paper Trade J., 6, Nr 3, 12, 14, 16 (1955); D. D. Bachlott, Y. K. Miller, D. W. White, Tappl. 38. 503 (1955); W. Drisch, L. Soep, Textile Res. J., 23, 8, 513 (1953); Al. Stamm, Paper Ind., 34, Nr 10, 1233 (1953); F. Walker, Pulp a. Paper Mag. Canad., 57, Nr 8, 127 (1956).

Card 4/4

YASHUNSKAYA, A.G.

Evaluating the quality of viscose cellulose. Khim.volok.  
no.1:23-26 '60. (MIRA 13:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo  
volokna.

(Cellulose) (Rayon)

YASHUNSKAYA, A.G.; KONOVALOVA, Ye.M.

Effect of carbonyl groups in cellulose on preripening process.  
Khim.volok. no.6:24-28 '61. (MIRA 14:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo  
volokna.

(Cellulose) (Carbonyl group)

YASHUNSKAYA, A.G.; KONOVALOVA, Ye.M.

Depolymerization of sulfite and sulfate cord cellulose in  
preripening process. Khim.volok no.4:27-30 '62. (MIRA 15:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo  
volokna.

(Cellulose) (Depolymerization)

YASHUNSKAYA, A.G.; KONVALOVA, Ye.M.

Polydispersion and rate of depolymerization of cord cellulose in the process of preripening. Khim.volok.no.5:32-36 '64. (MIRA 17:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna.

YASHUNSKAYA, A.G.; KONOVALOVA, Ye.M.; BELASHEVA, T.P.

Simplified method for determining the degree of polymerization  
of alkali cellulose. Khim. volok. no.2:31-33 '65.

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo  
volokna. (MIRA 18:6)

YASHUNSKAYA, A.G.; KONOVALOVA, Ye.M.

Effect of individual ions on the pre-aging process of alkali cellulose.  
Khim. volok. no.1:68-70 '62. (MIRA 18:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo  
volokna.

YASHUNSKAYA, F.I.

Collected articles on "Conducting polymeric materials, their properties and uses." Reviewed by F.I. Iashunskaya.

(Polymers--Electric properties)



21

CA  
YASHUNSKAYA, F.

Sulfur from coke generator gases. F. Yashunskaya.  
J. Chem. Ind. (Moscow) 12, 451-63(1935).—Review  
and discussion. H. M. Leicester

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

SEARCHED MAP ONE USE

REVISION ONE

SEARCHED MAP ONE USE

REVISION ONE

COMMON ELEMENTS																										COMMON VARIABLE																									
COMMON ELEMENTS																										COMMON VARIABLE																									
YASHUNSKAYA, F. L.																										30																									
<p>The terminology of synthetic rubbers. F. Yashunskaya. <i>Rubber Chem. and Technol.</i> (U. S. S. R.) 1938, No. 8, 81. A crit. discussion of a paper by Jacobs (C. A. 32, 4370). Chlororubbers are chlorinated rubbers and the differences between these and chlororubbers (or halogenorubbers) as suggested by Jacobs are negligible and may create confusion; moreover, chloroprene rubbers are also co-rubbers. Y. suggests modifying the terminology as follows: (1) Chloroprene rubbers, to which class belong Neoprene and Sovprene; (2) Butadiene rubbers, to which class belong Na-butadiene rubber, Buna and other products; (3) Thiurubbers and (4) Plastorubbers. A. Pestoff</p>																																																			
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION																																																			
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YASHUNSKAYA, F

I

Anglo-Russkiy Slovar Po Kauchuku i Rezine. Moskva,  
Gostekhizdat, 1944.

251 p:

Added T.P. in English.

YASHUNSKAYA, F. I.  
C/A

BC

New raw materials in the rubber industry. F. I. Yashunskaya. *Gumukhu, and Rubber (U. S. S. R.) 1940*  
No. 10, 1-7. A review of the literature, with 28 references on polybutylenes and polyvinyl chlorides.  
B. Z. Kamich

454-51.4 METALLURGICAL LITERATURE CLASSIFICATION

МАШИНЫ, 7. 1. 1944.

Anglo-Russkii Slovar 50 Vachuka (English-Russian Caoutchouc and Rubber  
Dictionary, Moskva, Izdatel'stvo, opiz Refer. 1944.  
251P.

*YASHUNSKAYA, F. I.*

USSR/Chemistry - Rubber

FD-891

Card 1/1      Pub.50 - 24/24

Author      : Yashunskaya, F. I.

Title      : Puncture-proof tires without tubes (Foreign Developments)

Periodical   : Khim. prom., No 6, 382-384 (62-64), Sep 1954

Abstract    : On the basis of foreign work, reviews the subject of tubeless puncture-proof tires. Twenty-eight references, all foreign.

Institution :

Submitted :

YASHUNSKAYA, F. I.

USSR/ Chemistry Rubber production

Card 1/1 : Pub. 86 - 3/36

Authors : Yashunskaya, F. I.

Title : Rubber in our days

Periodical : Priroda 43/8, 22 - 29, Aug 1954

Abstract : The history of rubber is recounted as well as the use of synthetic rubber, in which the author finds the United States to be ten years behind the Soviet Union. A comparison is made between the composition of natural rubber and that of synthetic rubber. Details are given of the chemical factors involved in the making of artificial rubber and the compositions of various kinds stated as well as the use to which they are put. An analysis is made of the outlook for synthetic rubber in general. Illustration.

Institution : ....

Submitted : ....

*Translation D 209305 - 18 Apr 55*

USSR/Chemistry - Rubber YASHUNSKAYA, F. I.

FD-2532

Card 1/1 Pub. 50 - 11/14

Author : Yashunskaya, F. I., Cand Tech Sci

Title : Tubeless tires (Foreign developments)

Periodical : Khim. prom. No 4, 239-242, Jun 1955

Abstract : Outlines on the basis of foreign publications technological progress in the production of tubeless tires. This article supplements information given in a review published in Khim. prom. No 6, 62, 1954. Forty four references; 2 USSR, both since 1940.



YASHUNSKAYA, F.I.

Meeting of party and administrative personnel in the Scientific  
Research Institute of the tire industry. Khim.prom.no.5:315 J1-  
Ag '55. (MLRA 9:1)

(Tires, Rubber)

YASHUNSKAYA, F.I.

New advances in synthesizing rubber. Priroda 45 no.8:33-40 Ag  
'56. (Rubber, Synthetic) (MLRA 9:9)

~~VACHINK KAYA F~~

7041 Rubber Ltd.

of equipment and materials, especially for the production  
and research work

006 U.S.S.R.

YASHUNSKAYA, F.I.

2561. New directions in rubber synthesis. *1.1* *1520*  
YASHUNSKAYA, F.I. *1955* *17* *4* *31* *40* This  
is a general survey of the development of synthetic  
rubbers, taking into account the scientific and  
general technological aspects. Soviet priority is  
stressed, but foreign articles, statistics, and illus-  
trations are included. Reference is made to latex  
reinforcement, polyurethane and chlorosulphonated  
polyethylene rubbers, graft polymerisation, and  
radioactive irradiation. 38

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1. The first part of the document is a list of the names of the persons who were present at the meeting. The names are listed in alphabetical order. The names are: [illegible]

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USSR/General Problems. Methodology. History. Scientific  
Institutions and Conferences. Teaching. Problems  
of Bibliography and Scientific Documentation

A

Abs Jour : Ref Zhur-Khimiya, No 4, 1958, 10235

Author : V. B. Yevstratov, K. D. Bebris, V. L. Biderman,  
G. N. Vriyko, L. V. Desidley, A. N. Zherevtsov,  
F. I. Yashunskaya.

Inst : Notgiven  
Title Development of the Tire Industry in the USSR  
in 40 Years.

Orig Pub : Kauchuk i rezina, 1957, No 10, 13-26  
Bibliography 25-titles

Abstract : No Abstract

Card 1/1

YASHUNSKAYA, E.I.

*See also [unclear] 611  
[unclear] [unclear]*

~~YASHUNSKAYA, F.J.~~

Conference of the D.I. Mendeleev All-Union Chemical Society.  
Kauch.i rez. 16 no.5:35-36 My '57. (MIRA 10:7)  
(Rubber)



YEVSTRATOV, V.F.; BEHRIS, K.D.; BIDERMAN, V.L.; BUYKO, G.N.; DESIDLEY, L.V.  
ZHEREBTSOV, A.N.; YASHUNSKAYA, F.I.

Development of the tire industry in the U.S.S.R. during the last  
forty years. Kauch. i rez. 16 no.10:13-26 0 '57. (MIRA 11:1)  
, (Tires, Rubber--History)

YASHUNSKAYA, F.I., kandidat tekhnicheskikh nauk; GOL'DMAN, E.E.

"White soot." Priroda 46 no.6:78-80 Je '57. (MLRA 10:7)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Moskva).  
(Silica)

15(9)

PHASE I BOOK EXPLOITATION

SOV/3103

Yashunskaya, Felitsiya Iosifovna

Sinteticheskiy kauchuk i yego primeneniye v narodnom khozyaystve  
(Synthetic Rubber and Its Use in the National Economy) Moscow,  
Goskhimizdat, 1958. 78 p. 25,000 copies printed.

Eds.: A.I. Zitser, and Ye.V. Shemastina; Tech. Ed.: M.S. Lur'ye.

PURPOSE: This booklet is intended for the general reader interested  
in the production of synthetic rubber and the manufacture of  
vulcanized rubber products.

COVERAGE: The production of crude synthetic rubber for vulcanized  
rubber products is briefly reviewed. The author outlines the  
history of the development of synthetic rubber production in  
Russia, Western Europe and the USA. Basic principles of rubber  
synthesis and the differences between natural and synthetic  
rubber are explained. Different types of synthetic rubbers,  
such as the butadiene rubber, chloroprene rubber, isoprene  
rubber, butyl rubber, fluoro rubber, urethan rubber, etc. are

Card 1/5

Synthetic Rubber (Cont.)

SOV/3103

reviewed, the polymerization process outlined, and the equipment used in this process described. The author also explains rubber vulcanization, analyzes the composition and properties of vulcanized rubber and describes the manufacturing process of vulcanized rubber products. Special attention is devoted to the manufacture of automobile tires, properties of rubber used in tires, and to methods of their fabrication. Conveyor belts, drive belts, and rubber hoses are reviewed and their manufacture described. The booklet contains a few pictures of equipment used in synthetic rubber production, and in manufacturing various rubber products. S.V. Lebedev, I.I. Ostromyslanskiy and N. D. Zelenskiy are mentioned as scientists who have greatly contributed to the development of rubber synthesis, and to the growth of the synthetic rubber industry of the Soviet Union. There are 12 Soviet references.

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Synthetic Rubber (Cont.)

SOV/3103

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Synthetic Rubber (Cont.)

SOV/3103

Vulcanized rubber products widely used for sanitation and  
hygienic purposes

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List of Recommended Literature on Rubber and Vulcanized Rubber

79

AVAILABLE: Library of Congress (TS 1925.I2)

Card 5/5

TM/jb  
2-18-60

YEVSTRATOVA, V.F., kand. khim. nauk, red.; YASHINSKAYA, F.I., kand. khim.  
nauk, red.; SATAROVA, M.V., red.; KHOMYAKOV, A.D., tekhn. red.

[New rubbers; properties and uses. Collection of translated articles  
from foreign periodicals] Novye kauchuki; svoistva i primeneniye.  
Sbornik perevodov statei iz inostrannoi periodicheskoi literatury.  
Moskva, Izd-vo inostr. lit-ry, 1958. 500 p. (MIRA 11:7)  
(Rubber)



YASHUNSKAYA, F.I.

25-58-3-5/41

AUTHOR: Yashunskaya, F.I., Candidate of Technical Sciences

TITLE: Rubber (Kauchuk)

PERIODICAL: Nauka i Zhizn', 1958, Nr 3, pp 17-22 (USSR)

ABSTRACT: The author gives a short review of the history of developing synthetic rubber and a description of its compounds, thereby emphasizing the unique property of natural rubber - its high elasticity. During the past few years, the USSR has succeeded in synthesizing isoprene rubber (SKI), which on the basis of its molecular structure and its resilience shows almost equal properties to that of natural rubber. The discovery of SKI brought about considerable changes in the synthesizing methods of rubber. The new way of synthesis was carried out using alkali lithium metal as a catalyzer. Today, new more efficient types of rubber are being produced by "grafted" polymerization methods; two different hybrids might result from this process: bloc polymers or grafted polymers. Another means to increase the durability properties of rubber is to apply irradiation with particles of high energy. Discoveries made by various scientists recently

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Rubber

25-58-3-5/41

led to a remarkable success: they obtained urethan rubber which is twice as wear-resistant as natural rubber. Urethan caoutchouc is obtained by synthesis on the basis of chemical products of the coal-tar and oil-processing. Recently, scientists discovered that an addition of 0.5-1.5% of carboxyl-containing substances, e.g. acrylic or methacrylic acids, to the raw material produces new properties in rubber, which help to improve its durability. There are 11 sketches and one illustration.

AVAILABLE: Library of Congress

Card 2/2 1. Synthetic rubber-Development

SOV/138-58-12-16/17

EDITORS: V.F. ~~Yevstratov~~ and F.I. Yashunskaya

TITLE: New Rubbers - Properties and Uses (Novyye kauchuki. Svoystva i primeneniye)

PERIODICAL: Kauchuk i Rezina, 1958, Nr 12, p 45 (USSR)

ABSTRACT: A review of a collection of articles translated from foreign (non-Soviet) periodicals. Published by Izdatel'stvo inostrannoy literatury (Publishing House for Foreign Literature), Moscow, in 1958. There are 500 pages.

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15(9)

SOV/63-4-1-17/31

AUTHOR: Yashunskaya, F.I., Candidate of Technical Sciences

TITLE: Some Technical-Economical Data for the Characteristic of the Rubber Industry of Capitalist Countries (Nekotoryye tekhniko-ekonomicheskiye dannyye k kharakteristike rezinovoy promyshlennosti kapitalisticheskikh stran)

PERIODICAL: Khimicheskaya nauka i promyshlennost', 1959, Vol 4, Nr 1, pp 115-120 (USSR)

ABSTRACT: The article deals with the rubber industry of the USA, Great Britain, France, the Federal Republic of Germany, Japan, Canada, and Italy. It contains materials on the following subjects: total and per capita consumption of rubber, assortment of rubber products, tires, technical rubber products, raw material base, production and consumption of synthetic rubbers, reclaimed rubber, technical fabrics and their properties, pro-

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SOV/63-4-1-17/31

Some Technical-Economical Data for the Characteristic of the Rubber Industry of Capitalist Countries

duction of carbon blacks and other fillers, etc.  
There are 11 tables and 20 references, 3 of which are Soviet,  
13 English and 4 French.

Card 2/2

YASHUNSKAYA, F. /.

Economic considerations in the utilization of reclaim. Kauch. i  
rez. 18 no.1:57 Ja '59. (MIRA 12:1)

1.Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.  
(Rubber, Reclaimed)

SOV/138-59-2-2/24

AUTHORS: Zakharchenko, P. I. and Yashunskaya, F. I.

TITLE: Contribution of Rubber Goods to the Progress of the National Economy in the 1959-1965 Seven Year Period (Rezinovyye izdeliya na sluzhbe tekhnicheskogo progressa narodnogo khozyaystva v semiletii 1959-1965 55)

PERIODICAL: Kauchuk i rezina, 1959, Nr 2, pp 4-9 (USSR)

ABSTRACT: According to the Seven Year Plan the capacity of the rubber tyre industry is to increase very considerably and this also applies to synthetic materials. One of the main consumers of rubber goods is the automobile industry, which absorbs 65 to 70% of the total rubber output. A new application of rubber is rubber-pneumatic suspension to substitute steel spring suspension. An important field of utilisation of rubber is the aircraft industry and, for instance, the TU-104 contains 126 000 rubber components of 200 different types. Communications have been published on the production of small aircraft with collapsible and inflatable wings and fuselages made of rubberized fabric. An important field of application in railway transportation is the substitution of cast iron brake-blocks by

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SOV/138-59-2-2/24

Contribution of Rubber Goods to the Progress of the National  
Economy in the 1959-1965 Seven Year Period

rubber-asbestos brake-blocks and by 1965 the introduction of such blocks on Soviet railroads should result in an economy of 400,000 % of cast iron. A further important application is in road building; rubber-bitumen road surfaces are considerably superior to asphalt road surfaces. The use of rubber in the tractor industry is to be increased considerably. The requirements to be met by rubber in the heavy industry are continuously more exacting. In 1965 the Soviet Union is to produce 168 million pairs of rubber shoes and boots, particularly rubber boots and goloshes which can be produced using extensively latex rubber.

Card 2/2



SOV/138-59-4-23/26

AUTHOR: Yashunskaya, F.

TITLE: On B. Mikhant'yev's booklet "The Present and Future Use of Artificial and Synthetic Materials" (O broshyure B. Mikhant'yeva "Segodnya i zavtra iskusstvennykh i sinteticheskikh materialov")

PERIODICAL: Kauchuk i Rezina, 1959, Nr 4, p 61 (USSR)

ABSTRACT: This book is a popular account of new materials. The reviewer points to a number of factual errors in the sections dealing with synthetic rubbers.

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15.9210 also 2109,2209

S/138/59/000/011/001/011  
A051/A029

AUTHORS: Yashunskaya, F. I., Markovich, G. A.

TITLE: On the Problems of High-Elastic Synthetic Rubbers as Compared  
to Butadiene-Styrene Rubbers ✓

PERIODICAL: Kauchuk i Rezina, 1959, No. 11, pp. 1-7.

TEXT: In the USSR particular emphasis is laid on an increase in the production of butadiene-styrene and butadiene-methyl-styrene copolymer rubbers because of their wear-resistance, high elasticity, durability, tensile strength, etc. It is the intention of the Soviet Synthetic Rubber Industry to produce butadiene-styrene rubber with higher physico-mechanical properties, of lesser cost and easier to process. It was found, for example, that the introduction of small additions of carboxyl-containing monomers, such as methacrylic acid, into the polymerizing mixture, imparts new properties to the ternary copolymers: elevated thermal aging resistance, resistance to the formation of cracks, elevated wear-resistance and an elevated stability of adhesion between the rubber and the textiles. The carboxyl-containing rubbers yield strong vulcanizates not requiring fillers, which

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S/138/59/000/011/001/01  
A051/A029

On the Problems of High-Elastic Synthetic Rubbers as Compared to Butadiene-Styrene Rubbers

is an important factor in the manufacture of white and colored rubbers (Ref. 1, 2). The disadvantage of the carboxyl-containing rubbers is the tendency of the rubber mixtures to scorching during the processing. Another monomer as third component in the ternary copolymers recommended is methylvinylpyridine, which can increase the wear-resistance and the aging-resistance in the rubber. However, these copolymers have not as yet been fully investigated. It is stated that many articles are still being made of natural rubber. Therefore, stress is laid on producing a synthetic rubber with equal elastic properties to natural rubber and having a number of advantages over it. The stereospecific polymerization is used for this purpose, with lithium and Ziegler-type catalysts. Special need for improved types of butadiene-styrene rubbers is felt in the production of tires for trucks, buses and aircraft, which represents 80% of the total number of tires manufactured in the USSR. The CKM(SKI) type high-elastic stereoregular rubber is the only one of its kind tested and suitable for manufacturing heavy-vehicle tires in the USSR. The import of natural rubber can be reduced by expanding the production of the new high-elastic rubbers, X

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On the Problems of High-Elastic Synthetic Rubbers as Compared to Butadiene-Styrene Rubbers

by erecting new SKI plants, and by developing the production of isoprene rubber, both on the basis of lithium and complex cocatalysts of the Ziegler and other types. Research into developing and producing new types of high-elastic rubbers of the cis-1,4-butadiene type is recommended, in addition to ethylene copolymers with propylene, etc. which would surpass natural rubber in their technical properties. A table is given (Table 1) of the comparative properties of the SKI, natural and CKG-30A (SKS-30A) rubbers. It is seen that SKI rubber is the most promising of the synthetic rubbers. There are 3 tables and 14 references: 7 Soviet, 7 English.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti  
(Scientific Research Institute of the Tire Industry)

Card 3/3

YASHUNSKAYA, F.I.

PLATE 1 BOOK EXPLANATION SCV/329

Справочник по машиностроительным материалам, том 1: Искусственные материалы (Handbook on Machine-Building Materials, Vol. 1: Synthetic Materials) Moscow, Mashinist, 1960. 175 p. Kireva stamp inserted. 60,000 copies printed.

Ed.: G.I. Popovitskiy, Doctor of Technical Science, Professor; Ed. of this Vol.: A.S. Levin, Doctor of Technical Science, Professor; Ed. of Publishing House: V.I. Prokhorov, Engineer; Tech. Ed.: P.A. Gerasimov; Managing Ed. for Information Literature (Mashgiz): I.M. Koshchinsky, Engineer.

REMARK: This book is intended for machine-building and construction engineers, architects, and other persons interested in the properties of building materials.

COMMENT: This is the fourth of a four-volume Handbook on Machine-Building Materials. Volume 1 discusses nonmetallic materials suitable for use in machine building and in other constructional applications. Textiles, wood, plastic, ceramic, rubber, and glass materials and properties of these materials are reviewed and data on their physical and mechanical properties are listed. No photographs are included. References follow individual chapters.

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Handbook on Machine-Building Materials (Cont.)

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Ch. V. Rubber Materials ( <u>Yashunskaya, F.I.</u> , Candidate of Technical Sciences; P.I. Lokhina, Engineer; F.I. Sokolovskaya, Candidate of Technical Sciences; V.A. Lepetov, Candidate of Technical Sciences; and B.I. Gorelik, Candidate of Technical Sciences)	233
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Handbook on Machine-Building Materials (Cont.)

SOV/4419

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S/063/60/005/001/008/009

AUTHOR: Yashunskaya, F. I., Candidate of Engineering

TITLE: On the Work of the Section on Rubber in the VKhO im. D. I. Mendeleyeva

PERIODICAL: Zhurnal vsesoyuznogo khimicheskogo obshchestva im. D. I. Mendeleyeva, 1960, Vol. 5, No. 1, p. 102

TEXT: The section on rubber in the All-Union Chemical Society was organized in 1957. Its activities comprise the technical development in the tire and rubber industry, exchange of scientific and industrial experience, improvement of the scientific and technical qualification of the members of the Society. In 1957, the section convened in Leningrad a scientific-technical conference on the future trends in the technical progress in the tire industry and in the industry of rubber-engineering products. In 1958, the section convened an All-Union conference on chemicals for the rubber industry. In 1959, an All-Union Conference on the mechanization and automation of some basic processes of the rubber production was organized. In 1960, an All-Union Conference was convened in Leningrad on apparatus and methods of physico-mechanical tests of rubber and an exhibition of the most modern apparatus was organized. In the first half of 1960 a discussion on the organization of the production of highly-resistant artificial and synthetic

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S/063/60/005/001/008/009

On the Work of the Section on Rubber in the VKhO im. D. I. Mendel'eva

fibers took place. In 1959, conferences were convened in the Moscow area which dealt with problems pointed out in the following papers: I. S. Kantor, "On the Technical Design of the Dnepropetrovsk Tire Plant Built on the Basis of a New Technology Using Imported Equipment and Documentation of Technological Processes"; V. I. Novopol'skiy, "On the Results of the Paris Symposium on Tires"; S. N. Mardon'yev, "On the Technology of Production of Rubber-Engineering Items in England"; S. V. Burov and Ye. S. Dmitriyev on their visit to Italian tire plants. Several shortcomings in the work of the section are pointed out: organizations in the periphery do not sufficiently participate in the work, more excursions should be organized and the activity of the primary organizations at the plants and in the institutes is insufficiently coordinated.

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S/063/60/005/003/001/003  
A003/A001

AUTHOR: Yashunskaya, F.I. Candidate of Technical Sciences

TITLE: The Mechanization and Automation of Some Basic Technological Processes in the Rubber Industry (Based on Materials of the Conference of the Section on Rubber in the VKhO imeni D.I. Mendeleyev)

PERIODICAL: Zhurnal vsesoyuznogo khimicheskogo obshchestva im. D.I. Mendeleyeva, 1960, Vol. 5, No. 3, pp. 337 - 339

TEXT: The Vsesoyuznoye soveshchaniye seksii reziny VKhO im.D.I.Mendeleyeva (All-Union Conference of the Section on Rubber in the VKhO imeni D.I.Mendeleyeva) took place in Moscow in December 1959. The achievements in the technology of the rubber industry and the industry of leather substitutes, e.g., new transfer lines, Soviet high-speed rubber mixers, the first automatic installation for the preparation of rubber mixtures at the Kiyevskiy regeneratno-rezinovyy zavod (Kiyev Reclaimed Rubber and Rubber Plant), the automatic weighing and charging of ingredients at the Yaroslavskiy shinnyy zavod (Yaroslavl' Tire Plant) were discussed. New types of machines are being developed at the "Metallist" Plant, the Tambovskiy zavod khimicheskogo mashinostroyeniya (Tambov Plant of Chemical Machine Building).

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S/063/60/005/003/001/003  
A003/A001

The Mechanization and Automation of Some Basic Technological Processes in the Rubber Industry (Based on Materials of the Conference of the Section on Rubber in the VKhO imeni D.I. Mendeleev)

etc. The technological level of the best plants abroad, however, has not yet been attained. The Conference was attended by more than 150 delegates from 37 plants, including 6 large machine-building plants, 13 designing and branch institutes, several national economic councils, state plan commissions and state committees. It was shown that the coordination of scientific research and experimental designing works is insufficient. The supply of the machine-building plants with membrane mechanisms, new types of engines, electric control apparatus is not satisfactory. The production of model equipment types is too slow. Several propositions were made: to speed up the output of highly-efficient powerful rubber mixers, calendars, extruders, vulcanization molds, casting presses, etc; to organize the output of pressure relays, membrane valves, membrane servo mechanisms, solenoid valves, new types of electromotors, control devices, special lubricators, etc; to develop laboratory equipment necessary for the investigation of new synthetic polymers, vacuum mixers for a wide range of viscosity, rollers for an operation temperature of 300°C, to raise the training level of the personnel for control and measuring apparatus, automated devices, etc; to convene a conference every year,

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S/063/60/005/003/001/003  
A003/A001

The Mechanization and Automation of Some Basic Technological Processes in the Rubber Industry (Based on Materials of the Conference of the Section on Rubber in the VKhO imeni D.I. Mendeleev)

the next one taking place in Kiyev. The following papers were presented: A.P. Bogayevskiy (NIIRP), Introductory speech on the problems of the Conference; I.P. Tsyganok (Tambov Plant of Chemical Machine-Building), "Development of New Machine Designs and Other Types of Equipment for the Rubber Industry"; V.M. Kamenskiy, Development of New Machine Designs and Units for the Rubber Industry and Modernization of the Mass-Produced Equipment Manufactured by the "Bol'shevik" Plant; E.I. Goloskov ("Metallist" Plant), "Results and Prospects of the Work at the "Metallist" Plant Concerning the Development and Introduction of New Machine-Designs for the Rubber and Tire Industry"; V.V. Arkhipov (NIKTI, Omsk), "Automatic Transfer Lines for the Production of Rubber Mixtures"; M.I. Penovskiy (NIKTI, Omsk), "Mechanization of the Recharging of Molds in Autoclave Vulcanization"; S.N. Marden'yev (NIIRP), "Review of the Vulcanization Equipment for the Production of Mold PTM (RTI); G.G. Smirnov, (NIKTI), "Automatic Transfer Lines for the Vulcanization of Motorcar Tires"; A.P. Aksenov (Yaroslavl' Plant of Chemical Machine-Building), "Vulcanization Press-Dies for Tires and the Improvement of the Technology of Their Production"; M.T. Klyuchnikova (Kiyev Reclaimed Rubber and Rubber Plant), "The

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S/063/60/005/003/001/003  
A003/A001

The Mechanization and Automation of Some Basic Technological Processes in the Rubber Industry (Based on Materials of the Conference of the Section on Rubber in the VKhO imeni D.I. Mendeleyev)

Operating Semi-Automatic Transfer Line on the Mixing and Rolling Section of the Colored Microporous Sole Production"; S.M. Lirner (Kiyevskiy zavod RTI - Kiyev PTM (RTI), "The Semi-Automatic Machine KBHД (KVND), a Vulcanizer of Continuous Operation for the Mass-Production of Rubber-Engineering Articles"; V.D. Levenshteyn (Leningrad Branch of Rezinoprojekt), "The Design of a Light-Duty Three-Dimensional Conveyer"; D.Ye. Kupriyanov (NIIRP), "Apparatus for the Continuous Vulcanization Process of Rubber Tubes"; P.D. Zolkin (NIIRP), "New Apparatus for the Vulcanization of Rubber Shoes"; A.P. Pukhov (NIISHP) "Experience of Automatic Weighing of the Ingredients of Rubber Mixtures and the Control of Rubber Mixers at the Yaroslavl' Tire Plant"; V.K. Smirnov ("Kauchuk" Plant) "Mechanization and Automation of the Processing of Mold Parts"; Kh.E. Malkina (NIISHP), "The Application of Electric Heating for the Decrystallization of Natural Rubber and Preliminary Heating in the Vulcanization of Treads".

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S/138/60/000/008/014/015/XX  
A051/A029

AUTHOR: Yashunskaya, F.I.

TITLE: At the VKhO imeni D.I. Mendeleyev (On the Work Carried Out by the Rubber Section)

PERIODICAL: Kauchuk i Rezina, 1960, No. 8, p. 55

TEXT: On July 8, 1960, the Administration of the VKhO imeni D.I. Mendeleyev heard a report made by the Polymer Sections including the Rubber Section. The main work of the section involved the introduction of new techniques, mechanization, automation and the continuous operation of production processes. This work was reviewed at an All-Union Scientific-Technical Conference on mechanization and automation of some of the major technological procedures in the Tire and Rubber Industries, conducted by the Rubber Section in December 1959, and at a conference on new methods and instruments for physico-mechanical testing of rubber (March 1960). Several lectures on new techniques are read in Moscow for members of the Rubber Section: I.S. Kantor on the Technical Project of the Dnepropetrovskiy shinnyy zavod (Dnepropetrovsk Tire Plant); V.I. Novopol'skiy on the Paris Symposium on Tires; V.F. Yevstratov on the Washington International Conference on

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A051/A029

At the VKhO imeni D.I. Mendeleyev (On the Work Carried Out by the Rubber Section)

Rubber, etc. A Reader's Conference was convened in May 1960 by the VKhO imeni Mendeleyev, Yaroslavl' Division, on the "Kauchuk i Rezina" journal. Regular seminars are conducted in Moscow on the theory and mechanism of rubber filling organized by the first organization of VKhO imeni D.I. Mendeleyev, at the NII of the Tire Industry. A conference on cooperation with the Yaroslavl' Division on problems of quality, processing and the rational application of cord in the tire industry should be convened. The II All-Union Conference on Mechanization and Automation in the Rubber and Tire Industries is being organized in Kiyev by the Kiyev Division of the VKhO imeni Mendeleyev and in the near future a conference will be convened in Moscow of employees of the department of scientific research (Scientific and Technical Information) in industrial installations and institutes of the rubber and tire industries, concerning summaries, forms and methods of their work, shortcomings and means for their elimination. A few excursions abroad are to be undertaken. Certain aspects of the work in the polymer sections were pointed out in some of the criticisms given on the submitted papers, e.g., insufficient coordination between the section and the first organizations of the VKhO imeni Mendeleyev, on the one side, and with the Goskhimkomitet (State Committee for Chemistry), on the other; the absence of a methodical guidance of the functions of the second-

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A051/A029

At the VKhO imeni D.I. Mendeleyev (On the Work Carried Out by the Rubber Section)

ary organizations on the part of the section; improper timing of the check of fulfilling decisions adopted at the various conferences and meetings. It is suggested that the work of the Rubber Section be intensified.

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YASHUNSKAYA, F. I.

Ten-language dictionary of crude and vulcanized rubber. Reviewed  
by F. I. Iashunskaya. Kauch. i rez. 19 no. 4: 63-64 Ap '60.

(MIRA 13:12)

(Rubber--Dictionaries)

YASHUNSKAYA, F. I.

Joint conference of Scientific and Technological Councils at the  
Dnepropetrovsk Tire Factory. Kauch. i rez. 19 no. 12:50 D '60.

(MIRA 13:12)

(Dnepropetrovsk--Tires, Rubber)

YASHUNSKAYA, F.I.

"Synthetic rubber technology" by W.S. Penn. Reviewed by F.I. Ashunskaya.  
Kauch. 1 rez. 20 no.1:64 Ja '61. (MIRA 14:3)  
(Rubber, Synthetic)

KRICHEVSKIY, I.Ye.; YASHUNSKAYA, F.I.

Comparative technical and economic estimation of prospective fibers for tire cord. Kauch.i rez. 20 no.5:39-44, My '61. (MIRA 14:5)

1. Moskovskiy institut tohkoy khimicheskoy tekhnologii im. M.V. Lomonosova i Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.

(Tire fabrics)

S/138/61/000/005/006/006  
A051/A129

AUTHORS: Yashunskaya, F. I., Berestnev, V. A., Nagdaseva, I. P.

TITLE: A creative discussion on the perfecting of chemical fibers used in the rubber industry

PERIODICAL: Kauchuk i rezina, <sup>20</sup>no. 5, 1961, 54 - 55

TEXT: The discussion which took place on February 20 - 22, 1961, was organized by the Central Board of the VKhO im. D. I. Mendeleyev, Sections for Rubber and Chemical Fibers, the scientific research institutes VNIIV and NIISHP and by the local organizations of the VKhO im. D. I. Mendeleyev at NIISHP. V. V. Krashak, corresponding member of the USSR Academy of Sciences, spoke on the synthesis of new polymers. Some of the most promising new methods of polymer synthesis were given as follows: 1) stereospecific polymerization, 2) grafting and block-copolymerization, 3) cyclopolymerization of non-conjugated diene hydrocarbons, 4) dehydration and recombined polymerization, 5) polycondensation on the interface of phases as a chemical method of direct formation of the ready fiber, 6) hydrolytic polymerization, 7) polycoordination using complex compounds with metals, such as beryllium, obtaining claw-type polymers. Professor N. V. Mikhaylov dedicated his

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S/138/61/000/005/006/006  
A051/A129

A creative discussion on the perfecting of...

paper to the characteristics of the most important tasks and directions of scientific development, especially physics and physical chemistry, in the field of polymer fibers. The properties of these fibers include elastomer fibers with an average module, elastic properties, thermal characteristics, non-reversible losses when heated, the molecular weight and the fractional composition. V. A. Kargin and N. V. Mikhaylov calculated the theoretical stability of the maximum-orientated cellulose fibers, which showed values of  $300 \text{ kg/mm}^2$ , or about 200 km of breaking length. This theoretical computation is apparently true to some approximation for chemical fibers of any composition. Strength indices have been reached in the laboratories equalling half of the assumed theoretical limit. V. F. Yevstratov spoke on the demands placed on the future cord for tires. The demands on future fabrics for the production of rubber articles were discussed by S. Ye. Strusevich. The use of conveyor belts, flat and edge-type belts in production will increase the durability of articles. Fabrics or threads made of high-index fibers, such as polyether and fortisan, are considered to be advantageous. Hydrate cellulose fibers are included in this group. Of the polyamide fibers tested, anide and enant were found to be the most suitable for the rubber article industry. Fluorine-containing special fibers are necessary for heat-resistant articles for temperatures reaching

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A051/A129

A creative discussion on the perfecting of...

300°C and more. A discussion was held with respect to the papers presented in which 17 representatives of various scientific organizations and plants in different cities participated. Lyubimova of the Nauchno-issledovatel'skiy institut bumagi (Scientific Research Institute of Paper) (VNIIB) spoke on the methods for improving the quality of cellulose used in the production of viscose fibers of high modules. Epshteyn spoke on the experimental cordless tires, in which the rubber-resin formulations based on the combinations of high-styrene, aniline-formaldehyde or other resins, serve as reinforcing layers. N. N. Lin'kov and I. I. Seleznev supplemented the paper by V. F. Yevstratov by analyzing the functioning of the cord thread in the tire. The elongation of the cord thread by 16 - 20% is considered to be the optimum for tires, but the specific indices are determined by the type of road and the material of the cord thread. F. I. Yashunskaya stated precisely the demands placed on the cord threads. P. F. Badenkov reported that the volume of scientific research work in the field of perfecting the fibers for tire cord lags behind the demands for increasing the quality of the tires.

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YASHUNSKAYA, F.I.

Testing of tires in the first women's automobile racing. ~~Keuch.~~  
i rez. 20 no.12:53 D '61. (MIRA 15:1)  
(Tires, Rubber—Testing)  
(Automobile racing)



YASHUNSKAYA, Felitsiya Iosifovna, kand. tekhn. nauk; FEYGIN, Il'ya Yefimovich, inzh.; BOGATOVA, V.N., red.; YURCHENKO, D.I., red.-leksikograf; AKSEL'ROD, I.Sh., tekhn. red.

English-Russian caoutchouc, rubber and chemical fibres dictionary, Anglo-russkii slovar' po kauchuku, rezine i khimicheskim voloknam. English-Russian caoutchouc, rubber and chemical fibres dictionary. Izd.3., perer. i dop. Moskva, Fizmatgiz, 1962. 260 p. (MIRA 16:6)

(Rubber--Dictionaries)  
(Textile fibers, Synthetic--Dictionaries)  
(English language--Dictionaries--Russian)

YASHUNSKAYA, F.I., kand.tekhn.nauk

Activity of the D.I.Mendeleev All-Union Chemical Society among  
rubber workers. Zhur. VKHO 7 no.4:477-480 '62. (MIRA 15:8)  
(Rubber industry workers) (Chemical societies)

YASHUNSKAYA, F.I.

"Applied science of rubber" by W.J.Naunton. Reviewed by F.I.  
IAshunskaya. Kanch.i rez. 21 no.4:59-60 Ap '62. (MIRA 15:4)  
(Rubber) (Naunton, W.J.)

YASHUNSKAYA, F.I.

Use of stereoregular rubber for tires in foreign countries.  
Kauch.i rez. 22 no.1:32-38 Ja '63. (MIRA 16:6)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.  
(Tires, Rubber)

YASHUNSKAYA, F.I.

Proposals for revision and improvement of the terms in some areas of the terminology applied to crude and vulcanized rubber and its characteristics. Kauch.i rez. 22 no.4:41-43 (MIRA 16:6)  
Ap '63.

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.  
(Rubber---Terminology)

BACHURIN, I.G.; YASHUNSKAYA, F.I., kand.tekhn.nauk

Basic economic problems of the prospective development of the tire  
industry. Zhur.VKHO 9 no.1:70-78 '64. (MIRA 17:3)

YASHUNSKAYA, F.I.

Foreign industrial polymeric materials and their components.  
Kauch. i rez. 23 no.4: 57 Ap'64 (MIRA 17:7)

YASHUNSKAYA, F.I.; POTAMOSHNEV, S.P.

Methodology for comparing labor productivity in the tire industry.

Kauch. i rez. 24 no.10:45-48 '65.

(MIRA 18:10)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.



YASHUNSKAYA, F.I.

Book reviews and bibliography. Kauch. 1 rez. 24 no.11:62 '65.  
(MIRA 19:1)

YASHUNSKAYA, F.I.

Russian-English dictionary for the Rubber and Plastic Industry.  
Reviewed by P.I. Iashunskaya. Kauch. 1 rez. 23 no. 7:62 JI '64.  
(MIRA 17:8)

YASHUNSKAYA, F.I.; NAZAROVA, M.V.; EPSHTEYN, V.G.; POLYAK, M.A.

In the D.I. Mendeleev All-Union Chemical Society. Kauch. i rez.  
23 no.12:50-52 D '64. (MIRA 18:2)

YASHUNSKAYA, F.I.

Second plenum of the Mendeleev All-Union Chemical Society.  
Kauch. i rez. 23 no.5:57 My '64. (MIRA 17:9)

L 12947-65 EWT(m)/EWA(d)/EWP(v)/EPR/EWP(t)/EWP(k)/EWP(b) Pf-4/Pe-4

JD/HM

ACCESSION NR: AP4044016

S/0193/64/000/008/0043/0046

AUTHOR: Yashunskaya, G. V.; Vaganov, I. M.; Bloshkin, Ye. G.; Berg,  
T. V.

TITLE: Electrodes for welding and surfacing

SOURCE: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 8, 1964,  
43-46

TOPIC TAGS: aluminum welding electrode, stainless steel welding  
electrode

ABSTRACT: The Moscow Experimental Welding Plant has developed several new welding electrodes, among them the OZL-14 electrode for welding 18-9 type stainless steels, the OZS-6 electrode for welding low-carbon steel structures, and the OZA-1 and OZA-2 electrodes for welding aluminum. The OZL-14 electrodes yield a weld metal which contains 6-10% ferrite, and is resistant to intergranular corrosion even in a sensitized condition. The OZA-1 electrode can be used for welding chemical equipment, electric wires, and aluminum containers. The OZA-2 electrode is suitable for the repair of defects in aluminum castings.

Card 1/2

L 12947-65

ACCESSION NR: AP4044016

Both electrodes underwent extensive tests and are now used in various plants of the Soviet Union. Orig. art. has: 1 figure and 1 table.

ASSOCIATION: none

SUBMITTED: 00

ATD PRESS: 3097

ENCL: 00

SUB CODE: MM

NO REF SOV: 000

OTHER: 000

Card 2/2

YASHUNSKAYA, G.V.; VAGANOV, I.M.; BLOSHKIN, Ye.G.; BERG, T.V.

Electrodes for welding and building-up. Biol. tekhn.-ekon. inform.  
Gos. nauch.-issl. inst. nauch. i tekhn. inform. 17 no.2:43-46 Ag '64.  
(MIRA 17:11)

YASHUNSKAYA, T. V. (Engineer) (Professional welding factory of Moscow Sovnarkhoz)

"Electrodes for welding of stainless steel on alternating current"

Report presented at the regular conference of the Moscow city administration NTO  
Mashprom, April 1963.

(Reported in Avtomaticheskaya Svarka, No. 8, August 1963, pp 93-95, M. M. Popekhin)

JPRS24,651 19 May 64



L 324/2-66 EWP(w)/EWP(m) EWP(n)/EWA(t)/EWP(u)-2/EWP(v)/T/EWP(k)/EWP(h) Pf-L/  
 Pu-L 101(c) JD/HM/JG/WB  
 ACCESSION NR: AP4049512 S/0135/64/000/011/0024/0025

AUTHOR: Yashunskaya, T. V. (Engineer)

TITLE: A-c welding electrodes for 18-9 type steels

SOURCE: Svarochnoye proizvodstvo, no. 11, 1964, 24-25

TOPIC TAGS: rutile coated electrode, filler metal, corrosion resistance, mechanical property, AC welding, niobium, calcium carbonate, welding electrode

ABSTRACT: The use of a-c and d-c welding currents and a stable burning of the arc as well as good slag separation from the weld are made possible by new rutile coated electrodes. The carbon content in the filler metal is lowered because the new coating contains only 10%  $\text{CaCO}_3$ . The filler method deposited by the new electrodes has a yield point of 30 kg/mm<sup>2</sup> and a tensile strength of 59 kg/mm<sup>2</sup>. An increase in the Nb content from 0.8 to 1.8 decreased impact toughness from 12.5 to 9 kg/cm<sup>2</sup>. Without FeNb, specimens subjected to corrosion tests showed no tendency to cracking. Knife-line attack was, however, ob-

Cord 1/2

L 32472-65  
ACCESSION NR: AP4049512

served in weld joints exposed to 65% boiling nitrogen acid. On the basis of experimental findings the OZI-14 rutile electrode for the a-c welding of 18-9 type steel was developed; the use of this unstabilized rutile electrode assures from 6 to 10% of the ferrite phase in the initial structure of the filler metal. It is characterized by satisfactory welding properties, good hot cracking strength and adequate mechanical properties as well as sufficient corrosive strength in the original state and after a 50 hour holding period at 650C. Extensive industrial tests show the suitability of the new electrode for the welding of parts exposed to a service temperature within the 450-650C range for short periods. Orig. art. has: 4 figures and 3 tables.

ASSOCIATION: Moskovskiy opytный svarochnyy zavod (Moscow Experimental Welding Plant)

SUBMITTED: 00

ENCL: 00

SUB CODE: MM

NO REF SOV: 003

OTHER: 000

Card 2/2

POLIAK, S.V., inzh.; YASHIN, V. G. ..

Units supplying electric power for construction projects. Amer. Strai.  
no.6:119-124 '58. (AIR 12:11)

1. Leningradskiy fabrik im. G. "Energostran."  
(Electric apparatus and appliances)

YASHUNSKIY, E.G., inzh.; GUDOVICH, G.A., inzh.; AFANAS'YEV, P.K., inzh.

Cable lines with 220 kv. rating of the Bratsk Hydroelectric  
Power Station. Elek. stat. 35 no.1:58-61 Ja '64. (MIRA 17:6)